

Abstract:

5 The invention relates to mold-release agents, in particular mold-release agents which can be used for demolding moldings from molding tools, and also to the use of these mold-release agents.

10 The mold-release agents of the invention, which are preferably based on suspensions of nanostructured microparticles, have the advantage of being markedly more environmentally compatible than the known mold-release agents based on organic or organosilicon compounds, since they can remain on the surfaces of the moldings. The use of the mold-release agents of the invention is very simple, since advantage can be taken of existing equipment. An example of a usual method is to produce injection moldings by means of injection molds into which the material is injected.

15 The mold-release agent of the invention is applied, e.g. by spray-application, to the injection mold prior to the actual injection-molding process.

20 Depending on the setting of the molding parameters, the microparticles are impressed into the surfaces of the moldings and anchored, and therefore another favorable effect is that the surfaces of the injection molding can have self-cleaning properties.

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES
PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG(19) Weltorganisation für geistiges Eigentum
Internationales Büro

09 SEP 2004

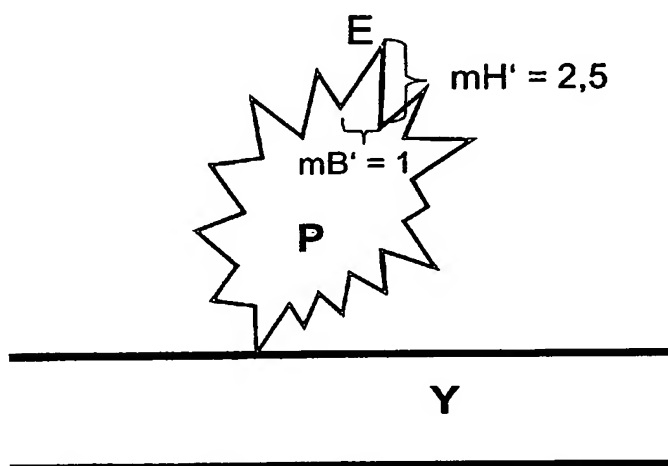
(43) Internationales Veröffentlichungsdatum
18. September 2003 (18.09.2003)

PCT

(10) Internationale Veröffentlichungsnummer
WO 03/076157 A1

- (51) Internationale Patentklassifikation⁷: **B29C 33/60** (72) Erfinder; und
(75) Erfinder/Anmelder (nur für US): NUN, Edwin [DE/DE];
(21) Internationales Aktenzeichen: PCT/EP03/01025 Hahnenkamp 1, 48727 Billerbeck (DE). OLES, Markus
[DE/DE]; Im Mühlenwinkel 2, 45525 Hattingen (DE).
(22) Internationales Anmeldedatum: 3. Februar 2003 (03.02.2003) (74) Gemeinsamer Vertreter: CREAVIS GESELLSCHAFT
FÜR TECHNOLOGIE UND INNOVATION MBH; In-
(25) Einreichungssprache: Deutsch tellectual Property Management, PATENTE u. MARKEN,
(26) Veröffentlichungssprache: Deutsch Bau 1042/PB 15, Paul-Baumann-Strasse 1, 45772 Marl
(DE).
(30) Angaben zur Priorität: 102 10 671.1 12. März 2002 (12.03.2002) DE (81) Bestimmungsstaaten (national): AE, AG, AL, AM, AT,
AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU,

[Fortsetzung auf der nächsten Seite]

(54) Title: RELEASE AGENTS COMPRISING HYDROPHOBIC, NANOSCALAR PARTICLES, AND THE USE OF THESE
MOLD RELEASE AGENTS(54) Bezeichnung: ENTFORMUNGSMITTEL, WELCHES HYDROPHOBE, NANOSKALIGE PARTIKEL AUFWEIST SOWIE
VERWENDUNG DIESER ENTFORMUNGSMITTEL

(57) **Abstract:** The invention relates to release agents, particularly release agents that can be used for removing shaped bodies from shaping tools, and to the use of these release agents. The inventive release agents, which are preferably based on suspensions of nanostructured microparticles, are advantageous in that they are distinctly environmentally friendlier than prior art release agents, which are based on organic or silicon-organic compounds, by virtue of the fact that they can remain on the surfaces of shaped bodies. The use of the inventive release agents is very simple since existing tools can be used. For example, injection molded parts are generally produced by using injection molds into which the material is injected. The inventive release agent is applied to the injection mold before the actual injection molding, e.g. by spraying it thereon. According to the setting of shaping parameters, the microparticles are pressed into and anchored in the surfaces of the shaped body whereby additionally enabling, as a positive effect, the surfaces of the injection molded body to be provided with self-cleaning properties.

[Fortsetzung auf der nächsten Seite]